

DEVELOPMENT OF THE INNOVATIVE ECONOMY OF AGROINDUSTRIAL COMPLEX

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Abstract

The contemporary development of agriculture takes place against a background of structural changes in social production, and new social phenomena in the society. Between them, the cause-effect relationship: a process of stimulating the development of the other and vice versa. The main thing in this regard is a new social division of labor in food production. For a long time food security was a function of the agricultural labor. Now it's a function, and industrial production. Industry creates crop and livestock sectors all artificial means of labor, it has manufacturing facilities, processes or their products. It is important to consider new trends in agricultural production, which is fully drawn into the general system of reproduction of social capital.

Keywords: *development of agro industrial complex, industrial production, technological development.*

INTRODUCTION

The development potential of the agricultural sector is one of the key areas of economic policy. Innovation processes in Agro Industrial Complex are quite specific. They differ in a variety of regional, functional, technological and organizational features.

Under modern conditions, along with their own scientific and technical developments, important to innovation development, including biotechnology, genetics and breeding of plants and animals, is borrowing the most progressive ideas and solutions in other countries. It is also closely associated with the construction of a national innovation system - a network of institutions, agencies and organizations in public and private sectors, importing and adapting innovative technologies to enhance scientific and technological level of domestic production.

Science-based agricultural policy of the country should consider and build on pronounced versatility of modern agriculture and its systemic impact on the implementation of key social, demographic, environmental and political problems of public administration. This comprehensive approach enables a new look and a real return on budget expenditures to maintain and develop the agricultural sector of the Moldovan economy, consider a generalized effect of the operation

of agricultural sectors in the economy and lay the foundation for its innovative growth.

MATERIAL AND METHOD

The object of research is the innovation development of agro industrial complex and its influence to the current conditions of the agricultural production in EU countries and Republic of Moldova.

To study the phenomenon of innovation in the agriculture have been studied the scientific works of specialists in this field. Was investigated development program of the European Union Program Europe 2020. [2]

In the investigation the following scientific methods of economic research were used: a comparative, historical, statistical and economic.

RESULTS AND DISCUSSIONS

With regard to agricultural innovations are realized in the economic practice of research and development in the form of new plant varieties, breeds and species, new or improved food products and materials. Innovative development of agriculture involves the use of new technologies in the agricultural, livestock and processing industries, new fertilizers and crop protection and animal species, new methods of

prevention and treatment of animals and birds, new forms of organization and management of the various spheres of economy, new approaches to social services, allowing improve production efficiency.[2]

On the subject and scope of application in agriculture is expedient to distinguish four types of innovation:

- breeding and genetics;
- technical-technological and production;
- organizational and managerial;
- social and environmental.

Selection and genetic innovation - is a specific type of innovation, characteristic only of the agrarian sector. These include both fundamental and applied research.

Among other areas, with the fundamental nature and focused on practical application, it should be noted genetic, cellular and chromosomal engineering, molecular virology and others.

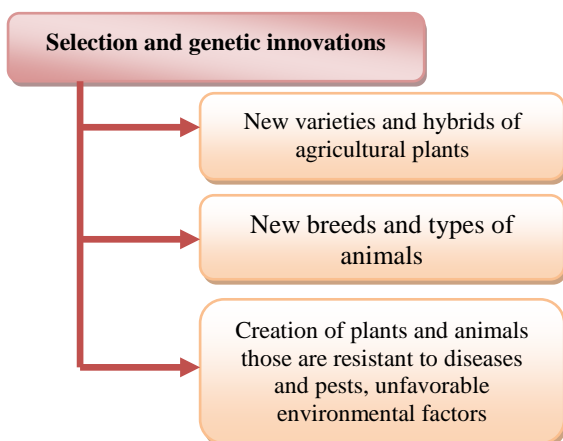


Fig.1. The composition of breeding and genetic innovations

Selection and seed-skilled and carry out applied research institution, transfer new varieties and hybrids in production. Therefore, innovation projects selection and genetics are the basis for the industrial and technological innovations.

Production and technological innovation - innovation is that, when the results of research, including breeding and genetic development, find their practical application in the manufacture of new types of agricultural and food products, or provide a

significant improvement in the quality of traditional products.

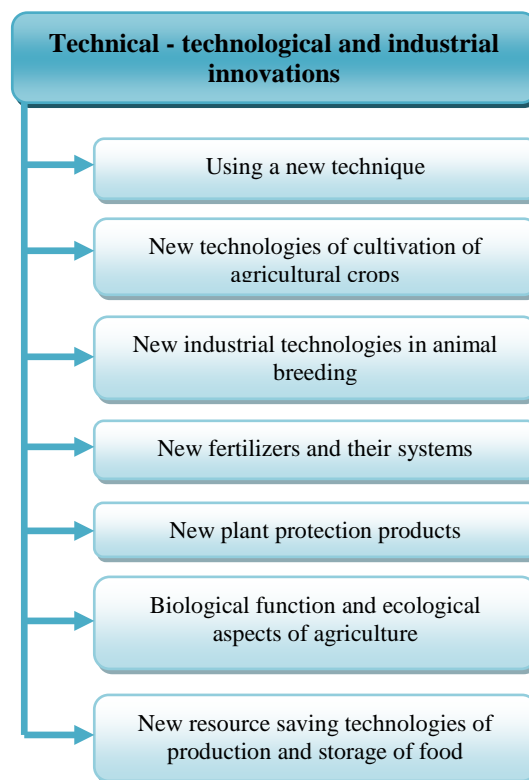


Fig.2. Classification of production and technological innovation

The same type of innovation should be classified as a fundamentally *new technology* of the agricultural work, the application of *new methods* of livestock management, technology, storage and processing of agricultural raw materials that enhance and preserve the biologically valuable qualities of products, reduction of resource consumption.

The organizational and managerial innovations include institutional innovations in the formation of a fundamentally new organizational and legal structure of the integrated type (agricultural holdings, agricultural firms and industrial parks), the creation of information and consultation systems. [5]

In practical innovations include businesses in the area of management, logistics, information technology and new methods of marketing. Organizational - managerial innovations are particularly important during periods of transition, when carried out structural transformation, carried out agrarian reform.



Fig.3. Organisational and managerial innovations in agriculture

Social and environmental innovations - innovations in the systems of economic and social relations in the regulation of production and market in the integrated development of rural areas, as well as new methods for solving environmental problems.

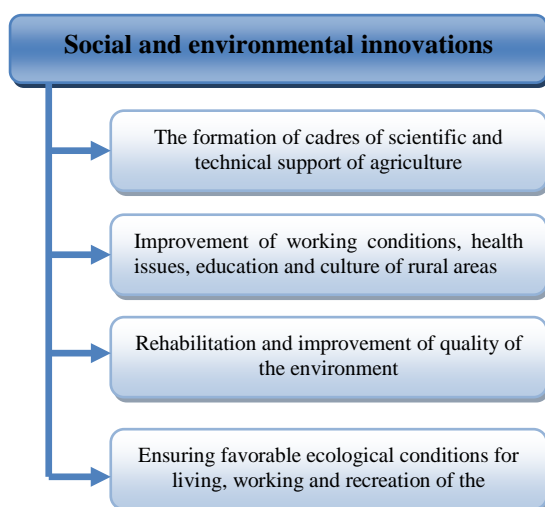


Fig.4. Social and environmental innovations

All of these types of innovations are number of specific forms of embodiment. These are

the results of fundamental and applied research, patents, licenses and trademarks, documentation of new technologies, innovative designs and national, regional and sectoral innovation programs.

Innovations have a direct influence on the level of welfare and satisfaction of each citizen and whole society. EU policies concerning innovations are aimed at transforming the European Union into a leading economy based on knowledge.

In order to counter the negative trends of development, heightened by the world financial crisis of 2007, the European Commission at the beginning of 2010 proposed for the member countries of the European Union to adopt the Program Europe 2020, which inherently is a vision of a modern, social market economy in the 21st century.

The new development strategy has a chance to provide a fast and stable social and economic development in Europe with high rates of employment, including building a modern, innovative and globally competitive European economy. Putting its essence briefly, it should be emphasized that the Program Europe 2020 includes three interrelated priorities [2]:

- **intelligent development:** the development of a knowledge-based economy and innovation,
- **sustainable development:** supporting the economy more efficiently using resources, more friendly and to the environment and more competitive,
- **development conducive to social inclusion:** supporting the economy with a high level of employment, ensuring social and territorial cohesion.

A policy of the evolutionary increase in the importance of instruments of pillar II of the Common Agricultural Policy (the structural policy in agriculture and a multi-purpose rural development), in the context of the realization of the vision of an innovative Europe can therefore potentially contribute to:

- the help for farmers in adjusting to more marketing regulations of the agricultural production;

- the promotion of new methods of selling products and the skills to cope with risk in competitive markets;
- the improvement of economic indexes and the growth in employment in the business,
- the incentives for the development of micro-enterprises (family business);
- the facilitation of interest in innovation and the results of the work of type R&D;
- the support of the dynamic rural entrepreneurship;
- the improvement of the methods of managing agricultural production chain;
- the encouragement to learn and use ICT.

The specific objectives of innovative economic development in Republic of Moldova can be considered the following:

- increase the welfare of the citizens of Moldova;
- economic development based on an effective strategy creation and application of knowledge and implementation of innovations;
- creating the conditions for business development by using scientific and technological potential of the Republic of Moldova;
- providing a significant increase in added value, provided by innovative businesses;
- Innovative business development in various sectors of the economy, so that the share;
- product innovation to ensure GDP growth accelerated to a similar European average;
- human capacity development and management of innovative business.

The innovation economy is the economy; growth is assured, largely in innovative business development through new technologies and innovative products and services. [4]

Innovative economic development must consider and traditional sectors, but will be implemented innovations aimed at increasing their efficiency.

The development of conceptual issues of public policy process and the corresponding system of machines is a strategic prerequisite

for innovative renewal of agro industrial complex.

Innovative economic development priorities in Moldova are based on three main priorities, which include a variety of industries:

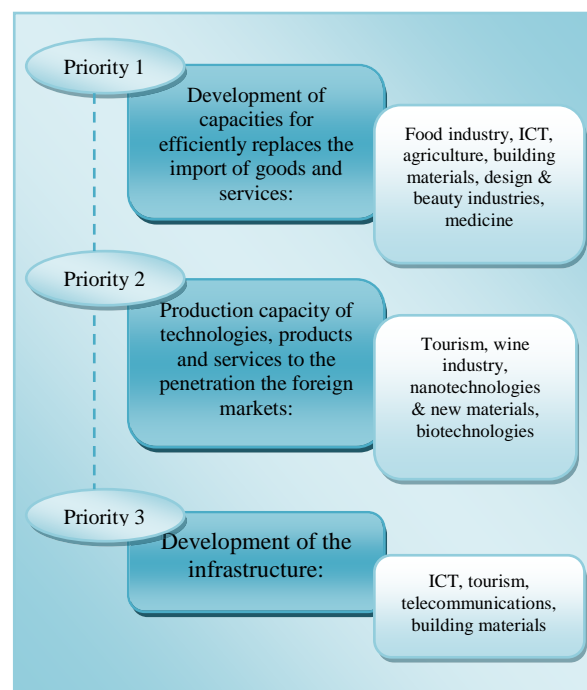


Fig.5. Innovation priority sectors of the Republic of Moldova

For each of the priority sectors need to be defined mechanisms and development tools, and performance measurement, and companies develop their innovative business development activities in these areas will receive special incentives.

Innovative development objective should be to reach a level of 60% of GDP by production innovation. For each priority sector should be defined separately specific indicators that will indicate performance not only quantitative but also qualitative development.

Applied technological research for sustainable development of AIC developed in the following directions (spheres):

- farming, melioration, water and forestry sector;
- plant production and protection;
- animal husbandry and veterinary medicine;
- mechanization, electrification and automation of production;

- storage and processing of agricultural products.

Among of the priority areas of agricultural production in the Republic of Moldova are the following: the cultivation of grain and wine industry. This year, in general, favourable to the crops had been collected for only 27.5 q/ha, while in compliance with generally accepted rules of farming in developed countries receive more than 60 q/ha. [5] At the same time they have practically the whole wheat food; we have also more than half of the stern, which is much cheaper. Grape yield is only 41.2 q/ha. In the European countries the same technical grade yield of 80 q/ha and above, and tableware 120-200 q/ha. [3]

In the development of new technologies for crop production should be allocated the following directions:

- technology of using mainly multioperational agricultural machines and implements, which minimizes the processing cost of soil, taking care of crops and harvesting;
- new technologies of production management and habitat-forming potential of agro-ecosystems and agricultural land based on the differential use of resources and the use of the positional sensing (adaptive plant);
- to ensure the protection of plants is necessary to develop modern methods of monitoring and forecasting the phytosanitary situation in various regions;

In the livestock sector to provide innovative scientific breakthroughs should be made the following directions:

- development and application of new methods of genetic control in livestock breeding process for improving existing and developing new breeds of farm animals;
- application of the regulation methods of the implementation of high animal productivity and creating new and effective systems of their feeding;
- forecasting and the development of programs for the development of livestock industries and business models

highly relevant to the conditions of different zones of the country;

- development of a new generation of biological preparations for the diagnosis, treatment and prevention of common diseases of animals, taking into account to achieve physical and chemical biology, biotechnology and molecular immunology;
- improvement of existing and development of new technologies for veterinary welfare of livestock, production-quality and ecologically safe products.

The provision of agricultural machinery is now one of the major challenges for the implementation of the concept of sustainable development, improving the competitiveness of Moldovan agro industrial complex. Therefore, the level of research and design work in the field of agricultural engineering and machinery intensive use of technology depends on the solution of most other AIC issues.

Innovations in storage and processing of agricultural products imply the creation of technological systems, storage and processing of agricultural raw materials in the manufacture of environmentally friendly competitive food products for general and special purpose.

Considered directions of innovative development can be realized in the actual practice of agro industrial complex, provided full and timely financing, including, or even primarily, due to government support of science and production-related innovations. However, governments, academic institutions and industrial organizations, developing specific innovative projects to objectively assess the risks that accompany the innovation, especially in such a complex field of agriculture. [6]

CONCLUSIONS

Agro industrial complex, as a basic factor of sustainable development of agriculture, producing resources, in many cases continue to produce obsolete means of production, implying in turn the use of simplified technologies both in agriculture itself and in

adjacent areas of processing, storage and marketing of agricultural products, which inevitably leads a significant reduction in productivity compared with the best world analogues. The development of conceptual issues of public policy process and the corresponding system of machines is a strategic prerequisite for innovative renewal of agro industrial complex.

As the innovation development of agriculture of the Republic of Moldova in the global economy becomes increasingly tangible improvement in the backlog of domestic agriculture from the world's leading food producers for all components of scientific and technological development. However, the experience of leading enterprises and parts of the country clearly shows that this gap can be overcome. Moreover, it confirms that the strategic plan is increasing scientific and technological level of production is a fundamental prerequisite for sustainable growth of competitiveness of domestic agriculture. And although modern macroeconomic situation and the limited investment opportunities in the state and enterprises are seriously hampering innovation activity, innovation is ultimately able to give a decisive impetus to overcome the recession and the transition to active growth phase in the new wave of technological expansion.

In these circumstances is required a complex of actions, most important of which is to overcome the antagonism between the interests of agricultural producers - on the one hand, and between the processing and service enterprises - on the other hand, by developing their cooperation on mutually beneficial terms with the provision of certain priority to rural producers because of their leading role in the cycle of food production. Main goal is better use of powers, overcoming the local monopoly in the field of processing, servicing and trading, as well as providing opportunities for increased investment.

Thus, only the acceptable scenario that can provide a sustainable competitive multifunctional and the strategic orientation of agro industrial complex is innovative. For its

implementation and should target the agrarian economic policy of the country.

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